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10/043,698	01/09/2002	Isaac Bentolila	MET2.PAU.02	7739

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EXAMINER	
SHELEHEDA, JAMES R	
ART UNIT	PAPER NUMBER
2623	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/043,698	BENTOLILA ET AL.	
	Examiner	Art Unit	
	JAMES SHELEHEDA	2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 August 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08/22/08 has been entered.

Response to Arguments

2. Applicant's arguments filed 8/22/08 have been fully considered but they are not persuasive.

On pages 10-12, regarding claim 1 and 8, applicant argues that Alexander fails to disclose “selecting a plurality of demographic groups to associate viewers with” and “associating a particular demographic group of the plurality of demographic groups with the viewer”.

In response, it is noted that Alexander explicitly discloses assigning viewers to specific demographic groups (age, married, children; column 30, lines 17-37). The system has “selected” a plurality of demographic groups, as it has information to assign viewers to these groups. Based upon the viewer information, the viewer is then assigned to one or more of the groups.

Thus, applicant's arguments are not convincing, as Alexander meets these claim limitations.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 5, 8, 9 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Alexander et al. (Alexander) (6,177,931) (of record).

As to claim 1, Alexander discloses a method of determining a television viewer's viewing habits (column 29, lines 31-55), comprising:

selecting a plurality of demographic groups to associate viewers with (column 30, lines 17-38);

recording a viewer's monitor behavior with data item variables including watched channel (column 28, lines 30-52), watching start time (column 28, lines 30-52) and watching duration (column 28, lines 30-52);

associating a particular demographic group of the plurality of demographic groups with the viewer (column 30, lines 17-38);

from a server-side system, inputting historical data information regarding demographic information tagged to the viewer for the viewer's demographic group (receiving the viewer profile, including demographic data; column 33, lines 8-15, column 28, lines 11-21 and column 30, lines 17-37);

inputting preferred program guide information for the demographic group (column 28, lines 30-52 and column 29, lines 31-55); and

at a client-side system (column 29, lines 14-21), associating the program guide information with the viewer's monitor behavior (column 28, lines 30-52 and column 29, lines 31-55) and defining therefrom a knowledge base with demographic group cluster information of the viewer in terms of statistical state machine transition models (characterizing demographics and other information of the viewer based upon statistical analysis of the users viewing transition data; column 29, line 31-column 30, line 37).

As to claim 5, Alexander discloses providing feedback information with the viewer's monitor behavior (providing customized content based upon the viewer's history; column 30, lines 45-58) by recording a click stream (recording the viewer's input commands; column 28, lines 30-67).

As to claim 8, Alexander discloses a method of determining a television viewer's viewing habits (column 29, lines 31-55), comprising:

selecting a plurality of demographic groups to associate a plurality of viewers with (column 30, lines 17-38);

associating a particular demographic group of the plurality of demographic groups with each viewer (column 30, lines 17-38);

capturing state transitions by defining monitor behavior in a plurality of statistical state machine families each representing the viewing behavior of a particular demographic group (column 28, lines 11-52 and column 29, lines 31-55);

at a client-side system (column 29, lines 14-21), combining the statistical state machine families (column 29, lines 31-55) into global statistical state machines defined in a global probability density function (combined interactions to statistically determine probable characteristics; column 29, line 31-column 30, line 37);

updating and reinforcing the global probability density function upon determining that a given probability has a higher confidence level than a previous probability density function (updating and reinforcing the determined probable characteristics; column 29, lines 21-30); and

outputting a global profile based on the global probability density function, wherein the global profile is suitable for determining programming content of a television server for classes of viewers (column 33, lines 8-15).

As to claim 9, Alexander discloses wherein the state transitions represent a television viewer's recording a viewer's monitor behavior (column 28, lines 30-52) and the statistical state machines are selected from the group consisting of watched channel (column 28, lines 30-52), watching start time (column 28, lines 30-52) and watching duration (column 28, lines 30-52).

As to claim 17, Alexander discloses wherein the data items have a probability function with a confidence level (determining statistically likely characteristics of the viewer; column 29, line 56-column 30, line 37), the method further comprising:

updating the historical data information upon determining that a given data item has a probability function with a higher confidence level then a previous data item (updating and reinforcing the determined probable characteristics; column 29, lines 21-30).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 2-4, 10-13, 16 and 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alexander in view of Grauch et al. (Grauch) (US 2005/0235318 A1) (of record).

As to claims 2 and 24-26, while Alexander discloses defining a knowledge base, he fails to specifically disclose calculating a parameterized transition matrix defining the viewer's viewing habits, the parameterized transition matrix containing information of program transitions initiated by the viewer, and wherein the row number and column number of the element represent the first and second states.

In an analogous art, Grauch discloses a method of determining viewer's viewing habits (paragraph 11-13) which will define the knowledge base by calculating a parameterized transition matrix defining the viewer's viewing habits (Clickstream Data matrix, 80; Figure 7 and paragraph 95), the parameterized transition matrix containing information of program transitions initiated by the viewer (Figure 7 and paragraph 95) and wherein the row number and column number of the element represent the first and second states (as each element is represented by the its corresponding "event record" and "event ID" row and column; see Fig. 7) to provide an efficient system for collecting and combining a plurality of different information sources (paragraph 11-15).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to modify Alexander's system to include calculating a parameterized transition matrix defining the viewer's viewing habits, the parameterized transition matrix containing information of program transitions initiated by the viewer, and wherein the row number and column number of the element represent the first and second states, as taught by Grauch, for the benefit of providing an efficient system for collecting and combining a plurality of different information sources.

As to claim 3, while Alexander discloses defining a knowledge base, he fails to specifically disclose defining at least two concurrent transition matrices including a channel matrix and a genre matrix.

In an analogous art, Grauch discloses a method of determining viewer's viewing habits (paragraph 11-13) which will define the knowledge base by calculating a

parameterized transition matrix defining the viewer's viewing habits (Clickstream Data matrix, 80; Figure 7 and paragraph 95), the parameterized transition matrix containing information of program transitions initiated by the viewer (Figure 7 and paragraph 95), including a channel matrix (Clickstream Data 80 Channel ID, Figure 7) and a genre matrix (Content ID Prevue Guide Data 82, Figure 7) to provide an efficient system for collecting and combining a plurality of different information sources (paragraph 11-15).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to modify Alexander's system to include defining at least two concurrent transition matrices including a channel matrix and a genre matrix, as taught by Grauch, for the benefit of providing an efficient system for collecting and combining a plurality of different information sources.

As to claim 4, while Alexander discloses defining a knowledge base, he fails to specifically disclose defining the transition matrix as a two-dimensional matrix with transitions from television channels to television channels in temporal form.

In an analogous art, Grauch discloses a method of determining viewer's viewing habits (paragraph 11-13) which will define the knowledge base by calculating a parameterized transition matrix defining the viewer's viewing habits (Clickstream Data matrix, 80; Figure 7 and paragraph 95) by defining the transition matrix as a two-dimensional matrix with transitions from television channels to television channels in temporal form (Figure 7 and paragraph 95) to provide an efficient system for collecting and combining a plurality of different information sources (paragraph 11-15).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to modify Alexander's system to include defining the transition matrix as a two-dimensional matrix with transitions from television channels to television channels in temporal form, as taught by Grauch, for the benefit of providing an efficient system for collecting and combining a plurality of different information sources.

As to claim 22, Alexander and Grauch disclose wherein the parameterized transition matrix is in a temporal form (see Grauch at Fig. 7, indicating the clickstream matrix in temporal form, mapping user actions to time).

As to claim 23, Alexander and Grauch disclose wherein the transition matrix includes a first matrix for TV watching activities (see Grauch at Fig. 7) and a second matrix for TV channel surfing (see Grauch at paragraph 15 and Fig. 7).

As to claim 10, while Alexander discloses defining a knowledge base, he fails to specifically disclose wherein the global profile represents demographic cluster information of the viewer in terms of a statistical state machine transition matrix.

In an analogous art, Grauch discloses a method of determining viewer's viewing habits (paragraph 11-13) which will define the knowledge base by calculating a parameterized transition matrix defining the viewer's viewing habits (Clickstream Data matrix, 80; Figure 7 and paragraph 95) representing demographic cluster information of the viewer in terms of a statistical state machine transition matrix (Figure 7 and the

information collected is what the system uses to determine demographic groups, paragraph 95 and 98) to provide an efficient system for collecting and combining a plurality of different information sources (paragraph 11-15).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to modify Alexander's system to include wherein the global profile represents demographic cluster information of the viewer in terms of a statistical state machine transition matrix, as taught by Grauch, for the benefit of providing an efficient system for collecting and combining a plurality of different information sources.

As to claim 11, while Alexander discloses defining a knowledge base, he fails to specifically disclose wherein the state machines are defined in a parameterized transition matrix defining the viewer's viewing habits, the transition matrix comprising an element indicating information of a program transition initiated by the viewer.

In an analogous art, Grauch discloses a method of determining viewer's viewing habits (paragraph 11-13) which will define the knowledge base by calculating a parameterized transition matrix defining the viewer's viewing habits (Clickstream Data matrix, 80; Figure 7 and paragraph 95) wherein the state machines are defined in a parameterized transition matrix defining the viewer's viewing habits, the transition matrix comprising an element indicating information of a program transition initiated by the viewer (clickstream Data 80 Figure 7 and paragraph 95) to provide an efficient system for collecting and combining a plurality of different information sources (paragraph 11-15).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to modify Alexander's system to include wherein the global profile represents demographic cluster information of the viewer in terms of a statistical state machine transition matrix, as taught by Grauch, for the benefit of providing an efficient system for collecting and combining a plurality of different information sources.

As to claim 12, Alexander and Grauch disclose wherein the transition matrix includes a first matrix for TV watching activities (see Grauch at Fig. 7) and a second matrix for TV channel surfing (see Grauch at paragraph 15 and Fig. 7).

As to claim 13, Alexander and Grauch disclose the computer-readable medium wherein the parameterized transition matrix is a two-dimensional matrix with transitions from television channels to television channels in temporal form (see Grauch at Figure 7 and paragraph 95).

As to claim 16, Alexander and Grauch disclose at the client-side system associating the program guide information with the viewer's monitor behavior and defining therefrom a knowledge base with demographic cluster information of the viewer (see Alexander at column 29, lines 31-67) in terms of statistical state machine transition matrices (see Grauch at Fig. 7, paragraphs 0091-0094).

7. Claims 6, 7, 14, 15 and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alexander and further in view of Konig (6,981,040) (of record).

As to claim 6, Alexander fails to specifically teach the method and corresponding computer readable medium which comprises parameterizing the viewer's monitor behavior with a pseudo hidden Markov process, and defining a low-level statistical state machine modeling a behavioral cluster and a top-level statistical state machine with active behavioral clusters and an interaction between the active behavioral clusters.

Konig, in an analogous art, discloses parameterizing the viewer's monitor behavior with a double random pseudo hidden Markov process (Hidden Markov Model, column 28 lines 14-18), and defining a low-level statistical state machine modeling a behavioral cluster (any individual user model can also apply to a cluster of users, column 14 lines 61-52, user response is monitored, column 27 lines 1-11 and column 27 lines 49-55), and a top-level statistical state machine with active behavioral clusters and an interaction between the active behavioral clusters (the documents are evaluated using the user model to estimate the user interest column 29 lines 49-52).

Therefore, it would have been obvious to one of ordinary skill in the art to modify Alexander's system to include parameterizing the viewer's monitor behavior with a pseudo hidden Markov process, and defining a low-level statistical state machine modeling a behavioral cluster and a top-level statistical state machine with active behavioral clusters and an interaction between the active behavioral clusters, as taught by Konig, for the benefit of allowing the system to make accurate models of viewer

usage in order to target the most relevant material towards the desired user or cluster of users, as suggested by Konig, see Col. 3, lines 45-Col. 4, lines 16.

As to claims 7 and 18, Alexander and Konig disclose a method and corresponding machine readable medium which comprises defining the pseudo hidden double random process (wherein a hidden Markov process is double random; see Konig at column 28, lines 17-78 and column 3, line 45-column 4, line 16) with a plurality of dimensions and determining parallel statistical state machine transition events in at least two of three state categories including channel, genre, and title (see Alexander at column 29, lines 31-55 and column 28, lines 30-52).

As to claim 14, Alexander fails to specifically teach the method and corresponding computer readable medium further comprising instructions for parameterizing the viewer's monitor behavior with a pseudo hidden Markov process, and defining a low-level statistical state machine modeling a behavioral cluster and a top-level statistical state machine with active behavioral clusters and an interaction between the active behavioral clusters.

Konig, in an analogous art, discloses parameterizing the viewer's monitor behavior with a double random pseudo hidden Markov process (Hidden Markov Model, column 28 lines 14-18), and defining a low-level statistical state machine modeling a behavioral cluster (any individual user model can also apply to a cluster of users, column 14 lines 61-52, user response is monitored, column 27 lines 1-11 and

column 27 lines 49-55), and a top-level statistical state machine with active behavioral clusters and an interaction between the active behavioral clusters (the documents are evaluated using the user model to estimate the user interest column 29 lines 49-52).

Therefore, it would have been obvious to one of ordinary skill in the art to modify Alexander's system to include instructions for parameterizing the viewer's monitor behavior with a pseudo hidden Markov process, and defining a low-level statistical state machine modeling a behavioral cluster and a top-level statistical state machine with active behavioral clusters and an interaction between the active behavioral clusters, as taught by Konig, for the benefit of allowing the system to make accurate models of viewer usage in order to target the most relevant material towards the desired user or cluster of users, as suggested by Konig, see Col. 3, lines 45-Col. 4, lines 16).

As to claim 15, while Alexander discloses a method and corresponding machine readable medium further comprising instructions for defining a plurality of dimensions and determining parallel statistical state machine transition events in at least two of three state categories including channel, genre, and title (column 29, lines 31-55 and column 28, lines 30-52), he fails to specifically disclose a double random process.

Konig, in an analogous art, discloses parameterizing the viewer's monitor behavior with a double random pseudo hidden Markov process (Hidden Markov Model, column 28 lines 14-18), and defining a low-level statistical state machine modeling a behavioral cluster (any individual user model can also apply to a cluster of users, column 14 lines 61-52, user response is monitored, column 27 lines 1-11 and

column 27 lines 49-55), and a top-level statistical state machine with active behavioral clusters and an interaction between the active behavioral clusters (the documents are evaluated using the user model to estimate the user interest column 29 lines 49-52).

Therefore, it would have been obvious to one of ordinary skill in the art to modify Alexander's system to include parameterizing the viewer's monitor behavior with a pseudo hidden Markov process, as taught by Konig, for the benefit of allowing the system to make accurate models of viewer usage in order to target the most relevant material towards the desired user or cluster of users, as suggested by Konig, see Col. 3, lines 45-Col. 4, lines 16.

As to claim 19, Alexander and Konig disclose defining a low level statistical state machine modeling a behavioral cluster (see Alexander at column 29, lines 30-67), and a top level statistical state machine with active behavioral clusters and an interaction among the active behavioral clusters (see Alexander at column 29, lines 17-37).

As to claim 20, Alexander and Konig disclose wherein the pseudo hidden Markov process is a double random process (wherein a hidden Markov process is by definition a double random process).

As to claim 21, Alexander and Konig disclose defining a low level statistical state machine modeling a behavioral cluster (see Alexander at column 29, lines 30-67), and a

top level statistical state machine with active behavioral clusters and an interaction among the active behavioral clusters (see Alexander at column 29, lines 17-37).

Conclusion

8. The following are suggested formats for either a Certificate of Mailing or Certificate of Transmission under 37 CFR 1.8(a). The certification may be included with all correspondence concerning this application or proceeding to establish a date of mailing or transmission under 37 CFR 1.8(a). Proper use of this procedure will result in such communication being considered as timely if the established date is within the required period for reply. The Certificate should be signed by the individual actually depositing or transmitting the correspondence or by an individual who, upon information and belief, expects the correspondence to be mailed or transmitted in the normal course of business by another no later than the date indicated.

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Please refer to 37 CFR 1.6(d) and 1.8(a)(2) for filing limitations concerning facsimile transmissions and mailing, respectively.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES SHELEHEDA whose telephone number is (571)272-7357. The examiner can normally be reached on Monday - Friday, 9:00AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on (571) 272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James Sheleheda/

Examiner, Art Unit 2623

JS